

Ministry of Environment Refurbishment

Lindapter Girder Clamps provided a solution for the installation of large air conditioning units on several roofs.

Project Background

Product: Type A & B Girder Clamps

Location: Wiesbaden, Germany

Project Value: \$21 million

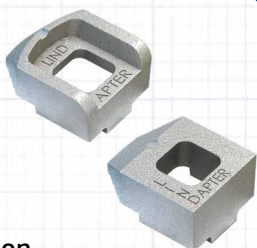
Steel Contractor: Huhle-Stahlbau

The Hessian Ministry for the Environment, Climate Protection, Agriculture and Consumer Protection buildings were built in 1989. Following an evaluation the buildings were deemed to no longer meet current energy performance requirements, therefore the decision was made to comprehensively renovate and expand them.

Client Requirement

The client wanted to create highly energy efficient buildings by improving the performance of the façades and roofs in order to reduce energy consumption and CO2 emissions.

As part of the project a modern and efficient heating and ventilation system was required, including the installation of large air conditioning units to the roofs of the buildings. The challenge was to find a suitable method of connecting these units to the roofs, and one that was easy to install.



Girder Clamps connect the steel framework



Air conditioning units being installed

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Design Solution

The engineers decided to add an extra floor to the buildings which would house the air conditioning units. The additional floors were designed using a steel framework that was sat on the loadbearing concrete columns and suspended above the existing roofs. Lindapter Type A & B Girder Clamps in a four-bolt connection were specified to connect the steel beams together. This would provide a structure strong enough to support the weight of the large air conditioning units. A hot dip galvanized (HDG) finish was also specified to provide a high level of corrosion protection.

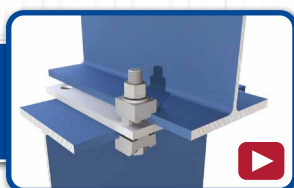


Installation

Steel beams were fixed on top of the structural concrete columns using upstands. Additional steel beams were then connected on top at 90° using a location plate and a four-bolt configuration consisting of Lindapter Type A and B clamps.

Installation was quick and easy as each bolt is simply inserted into the pre-drilled holes with the Type A holding the bolt captive while the nut on the Type B clamp is tightened with a torque wrench. The air conditioning units were then installed on the steelwork with all loads distributed to the structural columns.

[Click here to watch the installation video >>>](#)



Result

Lindapter Type A & B Girder Clamps provided a drilling and weld free connection in the field that was quick and easy to install.

The clamps are fully adjustable which gave the contractor the ability during installation to manoeuvre the beams into their final positions before fully tightening them. Other improvements to the buildings included highly insulated façades with triple-glazed windows, integrated photovoltaic systems and planted elevations. All measures helped to improve the energy efficiency and reduce CO₂ emissions.

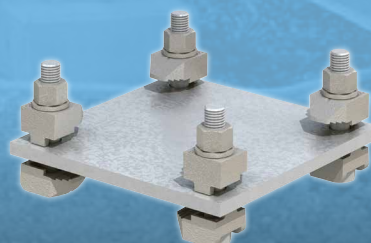


Steel beams create the extra floor

Key Benefits



- ✓ Adjustable in the field for easy installation
- ✓ No drilling or welding required
- ✓ Hot Dip Galvanized finish offers a cost-effective and low maintenance solution



[Click here for more details](#)